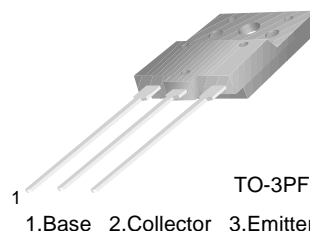


# FJAF4310

## Audio Power Amplifier

- High Current Capability :  $I_C=10A$
- High Power Dissipation
- Wide S.O.A
- Complement to FJAF4210



## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	140	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current (DC)	10	A
$I_B$	Base Current (DC)	1.5	A
$P_C$	Collector Dissipation ( $T_C=25^\circ C$ )	80	W
$R_{\theta JC}$	Junction to Case	1.48	$^\circ C/W$
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ C$

### Electrical Characteristics $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=5mA, I_E=0$	200			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=50mA, R_{BE}=\infty$	140			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=5mA, I_C=0$	6			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=200V, I_E=0$			10	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=6V, I_C=0$			10	$\mu A$
$h_{FE}$	* DC Current Gain	$V_{CE}=4V, I_C=3A$	50		180	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5A, I_B=0.5A$			0.5	V
$C_{ob}$	Output Capacitance	$V_{CB}=10V, f=1MHz$		250		pF
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5V, I_C=1A$		30		MHz

\* Pulse Test :  $PW=20\mu s$

### $h_{FE}$ Classification

Classification	R	O	Y
$h_{FE}$	50 ~ 100	70 ~ 140	90 ~ 180

# Typical Characteristics

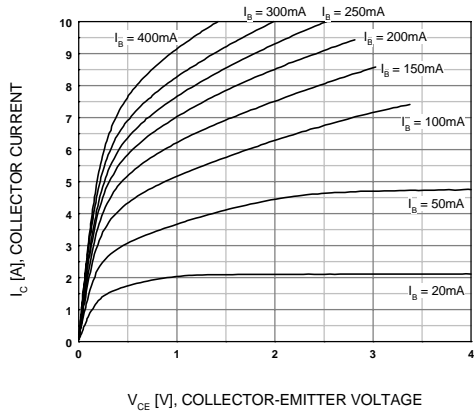


Figure 1. Static Characteristic

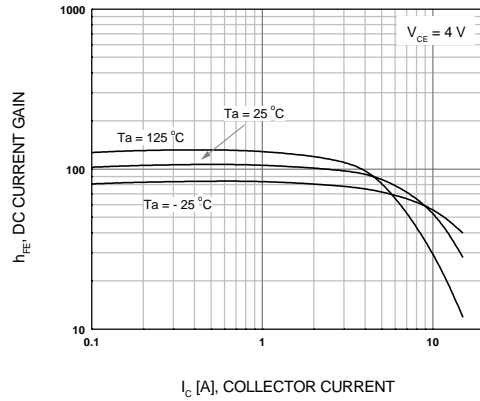


Figure 2. DC current Gain

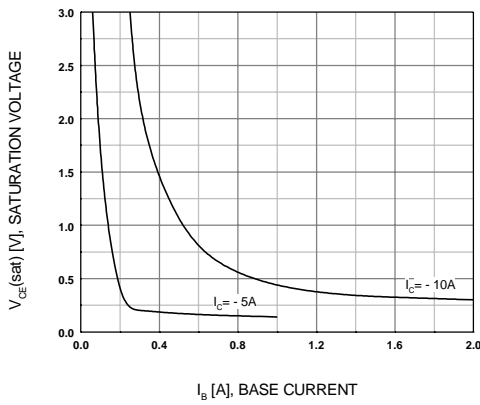


Figure 3.  $V_{CE(sat)}$  vs.  $I_b$  Characteristics

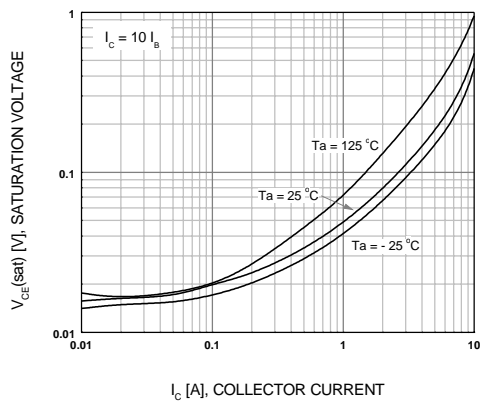


Figure 4. Collector-Emitter Saturation Voltage

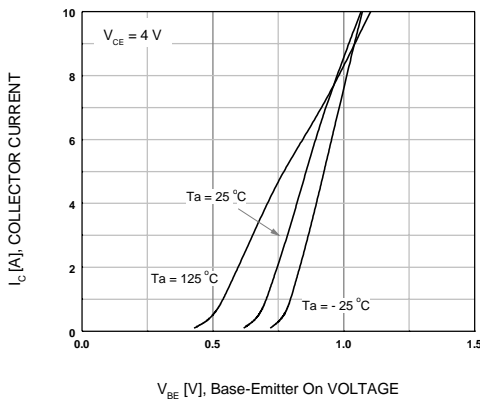


Figure 5. Base-Emitter On Voltage

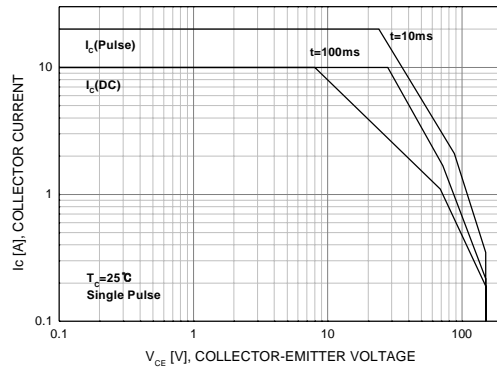


Figure 6. Forward Bias Safe Operating Area

### Typical Characteristics (Continued)

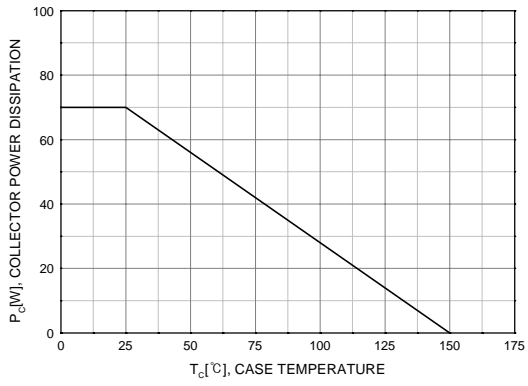


Figure 7. Power Derating

# Package Dimensions

FJAF4310

## TO-3PF



Dimensions in Millimeters

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ActiveArray <sup>™</sup>	FACT Quiet series <sup>™</sup>	ISOPLANAR <sup>™</sup>	POP <sup>™</sup>	Stealth <sup>™</sup>
Bottomless <sup>™</sup>	FAST <sup>®</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperSOT <sup>™</sup> -3
CoolFET <sup>™</sup>	FAST <sup>™</sup>	MicroFET <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
CROSSVOLT <sup>™</sup>	FRFET <sup>™</sup>	MicroPak <sup>™</sup>	QFET <sup>™</sup>	SuperSOT <sup>™</sup> -8
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E <sup>2</sup> CMOS <sup>™</sup>	HiSeC <sup>™</sup>	MSXPro <sup>™</sup>	Quiet Series <sup>™</sup>	TruTranslation <sup>™</sup>
EnSigna <sup>™</sup>	I <sup>2</sup> C <sup>™</sup>	OCX <sup>™</sup>	RapidConfigure <sup>™</sup>	UHC <sup>™</sup>
Across the board. Around the world. <sup>™</sup>		OCXPro <sup>™</sup>	RapidConnect <sup>™</sup>	UltraFET <sup>®</sup>
The Power Franchise <sup>™</sup>		OPTOLOGIC <sup>®</sup>	SILENT SWITCHER <sup>®</sup>	VCX <sup>™</sup>
Programmable Active Droop <sup>™</sup>		OPTOPLANAR <sup>™</sup>	SMART START <sup>™</sup>	

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